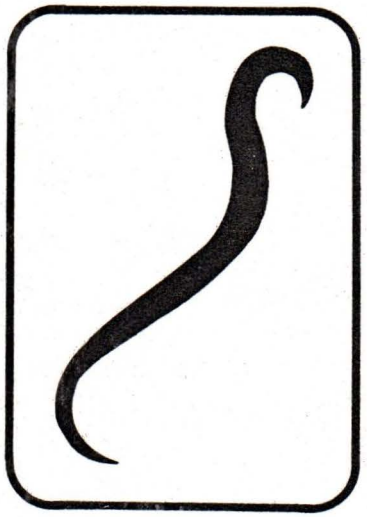
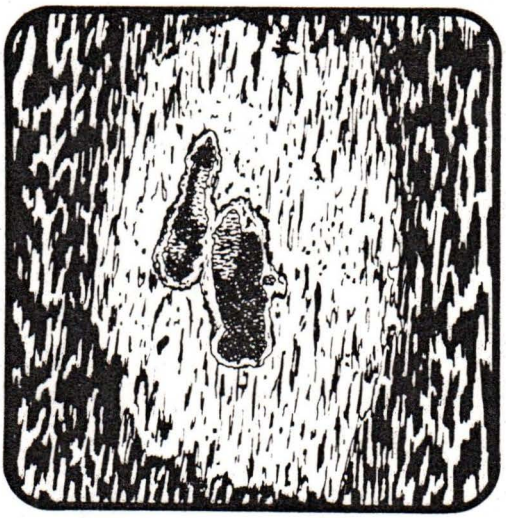
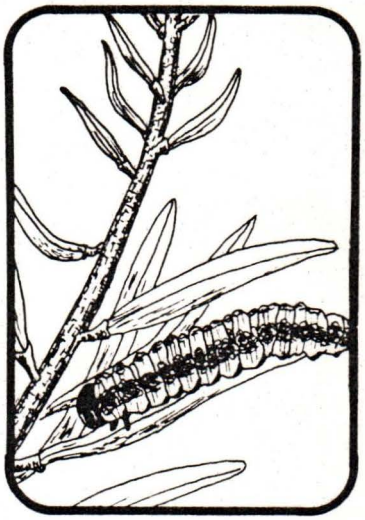
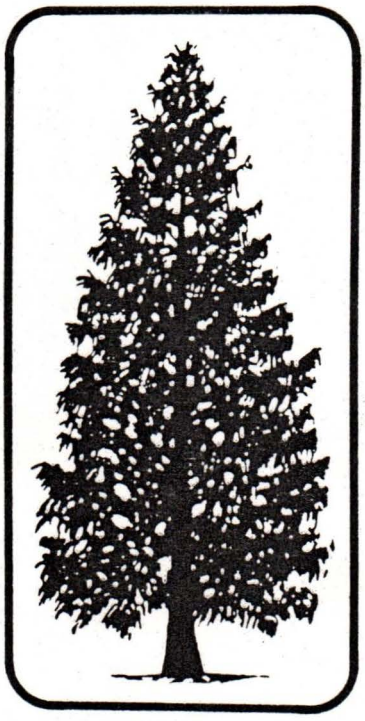
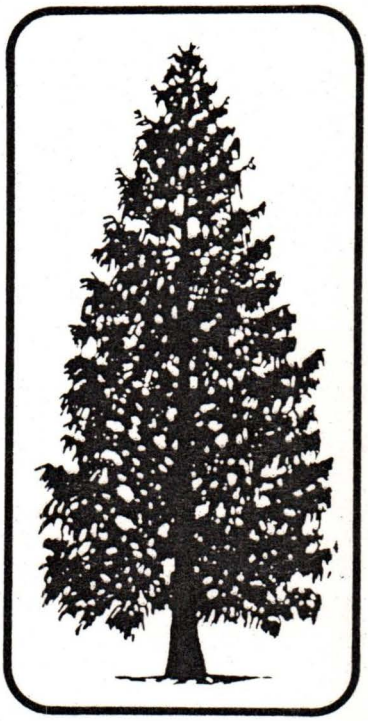
# 1987 ILLINOIS FOREST PEST REPORT











# 1987 FOREST PEST REPORT

Cooperating Agencies:

USDA Forest Service
Illinois Department of Conservation
Illinois Natural History Survey
Illinois Department of Agriculture
University of Illinois

Compiled by James E. Appleby
Illinois Natural History Survey

# 1987 ILLINOIS FOREST PEST REPORT

This report presents information on insects and diseases of forest trees in Illinois during 1987. Some urban forestry insects and diseases are also included. In addition, maps are presented which summarize the distribution of the forest and urban forestry insects which have been reported for the years 1985, 1986, and 1987.

If an insect specimen has been verified and deposited in the Illinois Natural History Survey insect collection, that county has the NHS designation. We felt this information would be particularly valuable to researchers wishing to construct a regional or national distribution map of a particular species. Persons wishing to send insect specimens that might be added to the collection should include the following information with the specimen: date of collection, county, host plant, and collector's name.

The map legends used in the report are as follows:

Reports in:

1985

1986

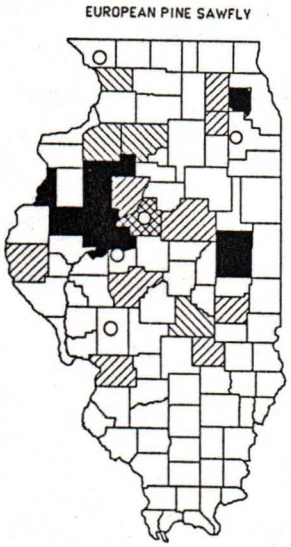
1987

NHS - Voucher specimens from this county reside in the Natural History Survey Insect Collection. Any combination of the designated legend patterns can occur within an Illinois county.

Persons contributing insect reports are from the Illinois Departments of Conservation, Agriculture, Natural History Survey, University of Illinois, and members of the Illinois Christmas Tree Growers Association.

## EVERGREEN INSECT PESTS

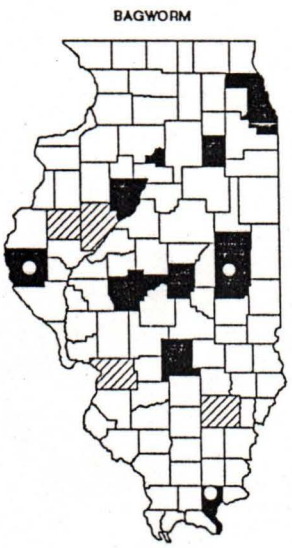
### European pine sawfly (Neodiprion sertifer)




This sawfly continues to cause damage to Scotch, red, and mugo pines in the northern half of Illinois. The majority of reports in 1987 indicated light with some moderate infestations. Populations are lower than in the 1985-1986 season. Control is easily accomplished with insecticide applications when the larvae are small. Growers are encouraged to inspect their plantations during April for sawfly populations. Bacillus thuringiensis applications will not control sawfly species. One grower attempted control with Bt with disastrous results.

Contributors: J. Benner, R. Blair, E. Donahoo, R. Eads, S. Felt, T. Gargrave, R. Grady, R. Laverdiere, L. Miller, G. Poe, R. Pulfer, M Reichenback, P. Skuba, D. Searls, C. Septon, M. Siemert, B. Stocker, J. Tidwell, C. Tidwell, R. Timmons, R. West, and B. West.

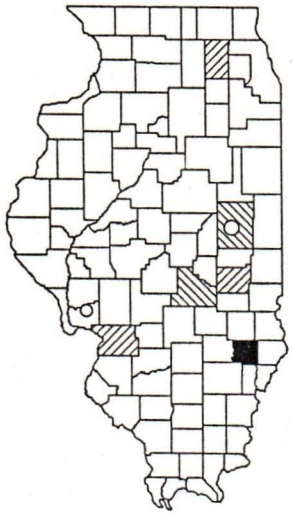
### Bagworm (Thyridopteryx ephemeraeformis)




Although this insect has been recorded as far north as Cook County (Chicago), the most severe damage to evergreens usually occurs in the southern half of the state. In past years severe damage has occurred in some white pine plantations in southern Illinois. Isolated spruce trees in central Illinois have been completely defoliated. Growers with white pine and/or spruce plantations are encouraged to inspect their trees between September and April for overwintering bagworms. Insecticide applications in late May or early June have resulted in excellent control. Bacillus thuringiensis applications are very effective in controlling this insect. In 1987 the populations have generally been lighter than in previous years.

Contributors: J. Appleby, R. Laverdiere, B. McVey, G. Stratton, and J. Tidwell.

PINE NEEDLE SCALE



## Pine needle scale (Chionaspis pinifoliae)

Reports in 1987 generally have indicated light infestations of the scale throughout the state. Control of this scale is easily accomplished with sprays of malathion or diazinon if applied in mid-May after all the overwintering eggs have hatched.

Contributors: E. Donahoo, T. Lamer, D. Stenger, and J. Tidwell.

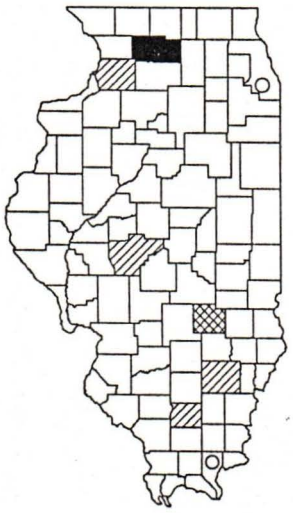
ZIMMERMAN PINE MOTH

## Zimmerman pine moth (Dioryctria zimmermani)

Moderate to high populations persist in Scotch and some white pine plantations in the northern half of Illinois. Chlorpryrifos (Dursban) spray applications in mid August and/or early April have been shown to give good control.

Contributors: J. Appleby, J. Benner, R. Eads, R. Pulfer, M. Siemert, P. Skuba, D. Stenger, and R. Timmons.

PALES WEEVIL



## Pales weevil (Hylobius pales)

Growers that have harvested trees for several years and have not applied stump treatments have problems with this insect. Severe damage to white and Scotch pine plantations have occurred in past years. Most growers in 1987 have gotten the problem under control. Spray applications using chlorpyrifos (Dursban) as a stump treatment in early to mid-March is advisable if a grower has had problems with this insect. This same chemical spray should be applied as a foliar spray to the seedlings after planting. In mid-July a chlorpyrifos spray should be applied to the seedlings to protect them from the newly emerging adult weevils.

Contributors: J. Appleby, G. Campbell, R. Eads, M. Siemert, G. Stratton, and E. Werhane.

NANTUCKET PINE TIP MOTH

**Nantucket pine tip moth (Ryacionia frustrana)**

Some Scotch pine plantations in southern Illinois continue to have moderate infestations. In past test trials a spray of dimethoate (Cygon) applied in late April have been shown to give excellent control.

Contributors: J. Pirtle.

PINE WEBWORM

**Pine webworm (Tetralopha robustella)**

Some growers in northern Illinois have problems with this insect infesting Scotch pine plantations. Due to the massive web nests that are present in late summer, growers are advised to use a hydraulic sprayer with high pressure and apply malathion in late June.

Contributors: J. Appleby, R. Eads, R. Grady, G. Poe, B. Stocker, and G. Stratton.

PINE BARK APHID

**Pine bark aphid (Pineus strobi)**

This aphid, if abundant on white pine seedlings, will cause a stunting of the new growth. On trees that are 7 ft. tall or more, the aphid infestation is usually considered of no economic importance. Insecticide applications of malathion or diazinon applied in late March have given good control. Light to moderate infestations occurred on isolated white pine trees in some plantations throughout the state.

Contributors: R. Eads and G. Stratton.

WHITE PINE APHID

**White pine aphid (Cinara pini)**

Moderate infestations occurred on isolated white pine plantation trees. The interior of some trees were sparsely defoliated due to past aphid infestations. On the needles the black sooty fungus growing on the honeydew produced by the aphids will cause needle drop. Infested trees are easily recognized by the blackened needles and branches and sparse interiors. Ants and wasps are often attracted to the honeydew produced by the aphids. The aphid is easily controlled with a malathion spray application. Control should be accomplished during April and May before populations become abundant.

Contributors: R. Eads, R. Nuboer, G. Poe, D. Schmoker, D. Stenger, B. Stocker, and G. Stratton.

EUROPEAN PINE SHOOT MOTH

**European pine shoot moth (Rhyacionia buoliana)**

This moth species can be a serious pest of Scotch, red, and Austrian pines in the northern half of Illinois. Moderate populations occurred in 1987. A single spray application of dimethoate (Cygon) applied in early July has given excellent control.

Contributors: J. Benner, R. Blair, E. Donahoo, R. Eads, R. Laverdiere, and G. Poe.

REDHEADED PINE SAWFLY

**Redheaded pine sawfly (Neodiprion lecontei)**

Moderate to heavy infestations were reported on isolated trees of Scotch and shortleaf pine in southern Illinois. A few trees were completely defoliated.

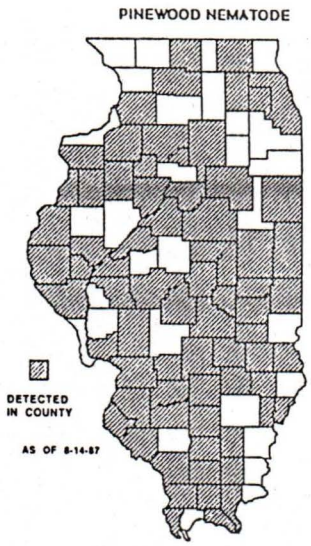
Contributors: J. Appleby, D. Searls, and G. Stratton.

## Ips spp.

Due to the large number of Scotch pine trees dying in Illinois due to pine wilt disease, populations of different Ips spp. remain high throughout the state. Ips activity is found in Scotch and red pine throughout the state.

Contributors: J. Appleby, R. Eads, and D. Schmoker.

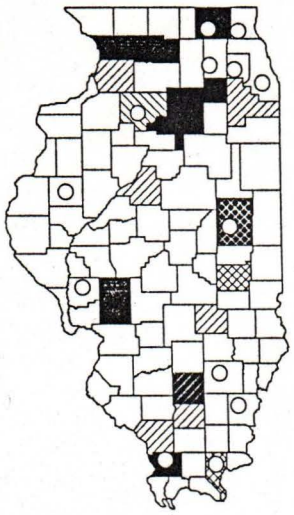
## Pinewood nematode (Bursaphelenchus xylophilus)




Plantations of Scotch and red pine that are older than 12 years are particularly susceptible to infestations of the pinewood nematode which causes pine wilt disease. Intensity of the disease throughout the state appears to be in the moderate range as it has been for the past 3 years. Populations of Ips, northern pine weevil, and Pales weevil are usually found in association with trees that have died of pine wilt disease. Longhorned beetles are the primary nematode vectors in Illinois. The nematode-infected beetles emerge from dead pines and will fly to healthy pines and feed on the branches. During feeding the nematodes leave the beetles body and enter the feeding wound, thereby infecting the healthy pine with the nematodes. Growers are advised to remove and burn dead pines as soon as possible before beetle emergence. Beetle emergence begins in late May and continues until early August.

Contributors: J. Appleby, R. Eads, R. Grady, R. Malek, J. Schillenger, and E. Werhane.

EASTERN TENT CATERPILLAR



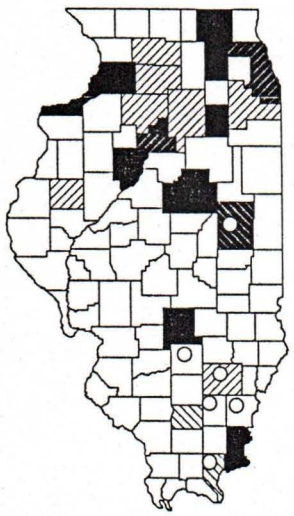
## DECIDUOUS TREES PESTS

### Eastern tent caterpillar (Malacosoma americanum)

Light to moderate infestations of this caterpillar were recorded throughout the state. Populations were generally lower than the high population levels that occurred throughout the state in 1985. The primary host is black cherry but larvae will feed on apple and crab apple.

Contributors: J. Appleby, J. Benner, R. Blair, G. Campbell, B. McVey, R. Nuboer, J. Pirtle, D. Schmoker, G. Stratton, R. Timmons, E. Werhane, and T. Wilson.

FALL WEBWORM

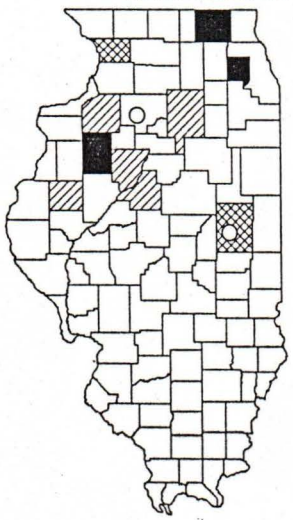


### Fall webworm (Hyphantria cunea)

This insect has an extensive host plant range but is most common on walnut, hickory, black cherry, black alder, and birch. Populations are somewhat lower than in previous years.

Contributors: J. Appleby, J. Benner, R. Laverdiere, R. Nuboer, G. Poe, D. Schmoker, and G. Stratton.

BRONZE BIRCH BORER



### Bronze birch borer (Agrilus anxius)

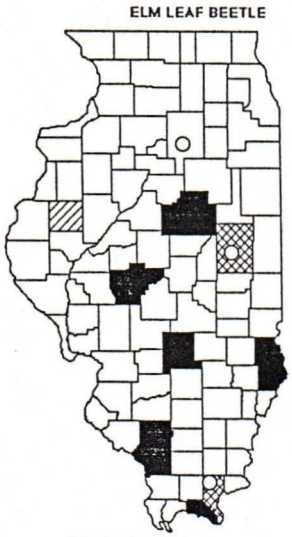
This borer is a very serious pest of ornamental birch in the urban areas. The upper two-thirds of the state usually has the most severe damage. Trees that are kept in a vigorously growing condition with proper fertilization and watering during drought periods appear to be the most likely to survive. However, even one year of no care is likely to be enough to cause the tree to become susceptible to beetle attack. Chlorpyrifos (Dursban) spray applications in late May and three weeks later with proper tree care are practices that are advised for growers of birch in Illinois.

Contributors: J. Appleby, J. Benner, R. Eads, S. Felt, R. Laverdiere, P. Skuba, and R. Timmons.

**Mimosa webworm (Homadaula anisocentra)**

For the past several years populations of this insect have been low in comparison to former years. The insect is only a problem to ornamental honey locust and mimosa plantings in the urban environment.

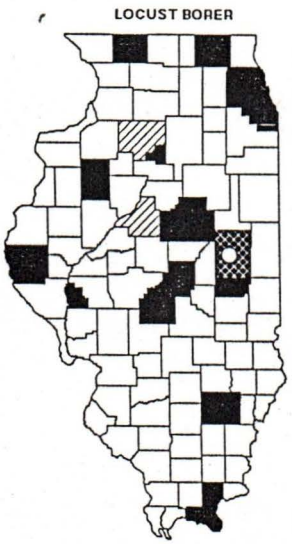
Contributors: J. Appleby and R. Laverdiere




**Elm leaf beetle (Pyrrhalta luteola)**

First generation caused severe leaf damage to elms in the urban environment throughout central Illinois. Damage by the second generation was not as severe.

Contributors: J. Appleby, R. Laverdiere, P. Skuba, and R. Timmons.




**Locust borer (Megacyllene robiniae)**

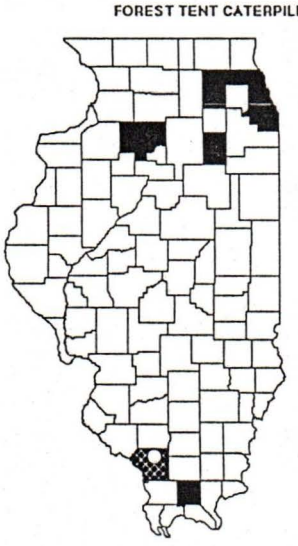
Moderate to heavy damage has occurred in black locust plantings along interstate highways and in strip mine reclamation areas in east central Illinois. Control has not been accomplished in any of the affected areas.

Contributors: J. Appleby, J. Benner, and P. Skuba.

## Walnut caterpillar (Datana integerrima)

Damage to walnut trees in southern Illinois was not as severe as in previous years. Insecticide treatments of malathion and or Bacillus thuringiensis have given good control if applied in late June or early July.

Contributors: J. Appleby, J. Benner, S. Felt, R. Laverdiere, and G. Stratton.




## Forest tent caterpillar (Malacosoma disstria)

During 1985 and 1986 a severe infestation of this caterpillar occurred in Jackson County affecting approximately 4,500 acres of forest. The mixed oak stand is primarily composed of pin oak, elm, ash, and hawthorn. Approximately 90% defoliation occurred in 1985 and 1986. The stand is generally flooded from November through May. The oaks are stressed due to a heavy infestation of the horned oak gall, defoliation by the forest tent caterpillar, and flooding. The area is usesd primarily for the sport hunting of ducks during the fall months. The mast crop from the oaks is an important food source for ducks. The loss of oaks would drastically affect the hunting and subsequent economy of the area. In 1987 an aerial application of Bacillus thuringiensis was applied to reduce the forest tent caterpillar population. Excellent control resulted from this application.

To investigate whether or not a Bacillus thuringiensis spray would drastically reduce the population of other moth species in the sprayed area, a survey was conducted from June 4 to July 16, 1987. Two light traps were placed in the sprayed area and two light traps were placed outside the sprayed area in a similar environment to that which was sprayed. At given dates throughout the survey period the lights were turned on and the following morning the contents of the traps were emptied and at a later date the number of moth species determined for each date. In general there were more moth numbers caught in the sprayed area as compared to the unsprayed area.

Contributors: J. Appleby and G. Campbell

**Gypsy moth (Lymantria dispar)**

A total of 5,525 gypsy moth traps were placed throughout Illinois in 1987. Of the 162 moths caught in 1987, most moths were caught in Lake and Dupage Counties (Chicago area) within small areas of the residential district. If egg masses are detected in these areas during January and February of 1988, a series of Bacillus thuringiensis sprays will be applied in the spring of 1988. The mass trapping and surveys conducted by the Illinois Department of Agriculture and the Bacillus thuringiensis spray applications continue to be successful in keeping this insect pest under control in Illinois.